IN THECLAIMS

Claims 1-26 (Canceled)

- 27. (Currently Amended) A method of determining a level of fructosamine oxidase activity in a sample comprising measuring the conversion of a substrate to a product <u>catalyzed</u> by fructosamine oxidase, <u>wherein a superoxide scavenging mechanism is disabled in said method</u>.
- 28. (Original) The method of claim 27 wherein the conversion is measured by determining a level of superoxide reaction product.
- 29. (Original) The method of claim 27 wherein the conversion is measured by determining a level of oxygen free radical product.
 - 30. (Canceled)
- 31. (Previously Presented) The method of claim 27 wherein a superoxide scavenging mechanism is disabled prior to exposure to a substrate.
- 32. (Previously Presented) The method of claim 31 wherein the substrate is glycated bovine serum albumin.
- 33. (Original) The method of claim 32 wherein the glycated bovine serum albumin is modified to eliminate copper chelating activity.
- 34. (Original) The method of claim 27 wherein measurements are made at a pH of 7 to 8.
- 35. (Original) The method of claim 27 wherein measurements are made at a pH greater than 7.5.

- 36. (Canceled)
- 37. (Previously presented) The method of claim 27 wherein the measurement of conversion of a substrate to a product by fructosamine oxidase is conducted on a sample from a human subject.
- 38. (Previously presented) The method of claim 27 wherein the sample is selected from the group consisting of blood, plasma, and serum.
- 39. (Previously presented) The method of claim 37 wherein the human subject is known to be, or suspected of, suffering from diabetes mellitus.
- 40. (Previously presented) The method of claim 39 further comprising determining whether the level of fructosamine oxidase activity in the sample is in a normal range.
- 41. (New) A method of determining a level of fructosamine oxidase activity in a sample comprising measuring conversion of a substrate to a product catalyzed by a mammalian fructosamine oxidase.
- 42. (New) A method of determining a level of fructosamine oxidase activity in a sample comprising measuring the conversion of a substrate to a product catalyzed by fructosamine oxidase, wherein the sample is from a human subject.
- 43. (New) The method of claim 41 or 42 wherein the conversion is measured by determining a level of superoxide reaction product.
- 44. (New) The method of claim 41 or 42 wherein the conversion is measured by determining a level of oxygen free radical product.

- 45. (New) The method of claim 41 or 42 wherein a superoxide scavenging mechanism is disabled in said method.
- 46. (New) The method of claim 45 wherein a superoxide scavenging mechanism is disabled prior to exposure to a substrate.
- 47. (New) The method of claim 46 wherein the substrate is glycated bovine serum albumin.
- 48. (New) The method of claim 47 wherein the glycated bovine serum albumin is modified to eliminate copper chelating activity.
- 49. (New) The method of claim 41 or 42 wherein measurements are made at a pH of from about 7 to about 8.
- 50. (New) The method of claim 41 or 42 wherein measurements are made at a pH greater than about 7.5.
- 51. (New) The method of claim 42 wherein the sample is selected from the group consisting of blood, plasma, and serum.
- 52. (New) The method of claim 42 wherein the human subject is known to be, or suspected of, suffering from diabetes mellitus.
- 53. (New) The method of claim 52 further comprising determining whether the level of fructosamine oxidase activity in the sample is in a normal range.